

Special Specification 6021

Raised Pavement Markers (RPMs) with Warranty



1. DESCRIPTION

Furnish and place RPMs as shown on the plans. Provide a manufacturer's warranty bond for RPMs for a 1 year period. The Department will allow a Contractor provided warranty bond instead of the manufacturer's bond if all conditions of the manufacturer's warranty including the requirements of this Item are met. In such case, the Contractor is responsible for the meeting the warranty requirements. Use the form provided by the Department.

2. MATERIALS

Furnish RPMs that meet DMS-4200, "Pavement Markers (Reflectorized)," and are on the Department's MPL. Furnish the same model RPMs for each type from the same manufacturer.

Use adhesive approved by the RPM manufacturer.

3. CONSTRUCTION

Remove existing RPMs in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for measurement and payment.

Install RPMs in accordance with RPM manufacturer's recommendations.

Place RPMs on new asphalt concrete or surface treatment only after the new surface has aged at least 14 days.

Establish pavement-marking guides to mark the lateral location of RPMs as shown on the plans and as directed. Do not make permanent marks on the roadway for the guides. Place the RPMs in proper alignment with the guides. Acceptable placement deviations are shown on the plans.

Remove RPMs placed out of alignment or sequence as shown on the plans or stated in this Specification at the Contractor's expense, in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for Measurement and Payment.

Remove and replace all RPMs failing to meet the visual evaluations as determined by the Engineer. Install each replacement RPM in front of and in alignment with the original RPM. Patch each hole left by the missing original RPM with an approved material at the time of RPM replacement.

The Department will provide written acceptance as of the last calendar day of each month for RPMs installed that month and at final job acceptance for any remaining installed RPMs. This written acceptance (see attached sample form) will include the date, location, and quantity of markers accepted each month.

4. VISUAL EVALUATIONS

The Department will use the following visual evaluations to measure the performance of installed RPMs:

- 4.1. **Retroreflectivity of RPMs.** The Department will perform night retroreflectivity evaluations using a passenger vehicle with the headlights set on low beam. The RPMs within the range of the headlights must appear reflective.

For RPMs initially installed at:

- 80-ft. spacing, a minimum of 4 RPMs must be retroreflective and
- 40-ft. spacing, a minimum of 8 RPMs must be retroreflective.

The Engineer may make exceptions where road geometry affects RPM visibility. The evaluation may include a videotape recording to be used for additional review and documentation of performance. Upon request, the Engineer will allow a Contractor or manufacturer representative to accompany the Engineer on subsequent evaluations when RPMs do not appear to meet the retroreflectivity requirements.

- 4.2. **Missing RPMs.** The Department will perform visual evaluations to determine if RPMs are missing. Upon request, the Engineer will allow a Contractor representative to accompany the Engineer on subsequent evaluations for missing RPMs.

The Engineer may exclude RPMs from the replacement provisions of the performance or warranty periods, provided the Engineer determines that the failure is a result of outside causes rather than defective material. Examples of outside causes are extreme wear at intersections, damage by snow or ice removal, and premature pavement failure.

5. PERFORMANCE PERIOD

Provide a 60-day performance period that begins the day following written acceptance.

Replace all RPMs failing to meet Article 4, "Visual Evaluations" during the performance period and within 15 days after notification following the procedures in Article 3, "Construction." The end of the performance period does not relieve the Contractor from the performance deficiencies requiring corrective action identified during the performance period.

Provide a contact name, address and phone number for notification of needed RPM replacement.

6. WARRANTY PERIOD

The warrantor must provide a warranty bond on the form provided and approved by the Department. (See the attached bond form.)

The warrantor warranty period is for 1-yr. and starts the day after the performance period ends. The warrantor will replace any RPMs that fail to meet Section 4.1., "Retroreflectivity of RPMs," during the warranty period and within 15 days after notification following the procedures in Article 3, "Construction."

The end of the warranty period does not relieve the warrantor from the performance deficiencies requiring corrective action identified during the warranty period.

Each manufacturer's warranty does not include replacement of missing RPMs.

Provide a contact name, address and phone number for notification of needed RPM replacement.

7. MEASUREMENT

This Item will be measured by each RPM. This is a plans quantity measurement Item.

The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments are required.

8. PAYMENT

The work performed and materials furnished in accordance with this Specification and measured as provided under "Measurement" will be paid for at the unit price bid for "Raised Pavement Markers (RPMs) with Warranty" of the types specified. This price is full compensation for removing existing markers; furnishing and installing warranted RPMs and meeting the performance period requirements; providing a warranty bond; and equipment, materials, labor, tools, and incidentals. Payment for "Raised Pavement Markers (RPMs) with Warranty" will be handled in the following manner:

- 8.1. **Initial Payment.** When RPM installations receive written acceptance, 80% of the bid price for RPMs of the type specified for that installation will be paid.
- 8.2. **Final Payment.** At the completion of all performance periods and the replacement of all RPMs identified during the performance periods that failed to meet the visual evaluations, an additional 20% of the bid price for RPMs of the type specified will be paid.

WARRANTY BOND	CONTRACT NO.	
	COUNTY	
	BOND NO	

KNOW ALL PERSONS BY THESE PRESENTS: That we, _____, manufacturer of or Contractor for raised pavement markers, as Principal, and _____, as Surety, are held and firmly bound unto the State of Texas, as Oblige, in the penal sum of _____ Dollars \$ _____, lawful money of the United States, well and truly to be paid to the State of Texas, and we bind ourselves, our heirs, successors, executors, and administrators jointly and severally, firmly by these presents.

Whereas, the above bounden Principal has provided raised pavement markers to _____ for the foregoing contract entered into between _____ and the Oblige, attached hereto; and

Whereas, the Principal is required to protect the Oblige against any defects resulting from faulty raised pavement markers installed under said contract for a period of one year beginning the day after the end of each performance period.

Now, therefore, the condition of this obligation is such that if the above bounden principal, its heirs, successors, executors, and administrators shall promptly and faithfully carry out and perform the warranty as provided in said contract, and shall, within fifteen days of due notice, replace any installed raised pavement markers that may fail to meet Oblige's visual evaluation as provided for in the Contract during the period specified above or shall pay over, make good, and reimburse to the said Oblige all loss and damage that said Oblige may sustain by reason of failure or default of said Principal so to do, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

Provided further that the end of a warranty period shall not relieve Principal from its obligation to correct deficiencies requiring corrective action, so long as those deficiencies are identified during the warranty period.

WITNESS our hand this _____ day of _____ 20 _____.

(Warrantor Name)

****SURETY** (Print Firm Name and Seal)

By: _____
(Title)

* By: _____
(Warrantor Officer)

* By: _____
(Warrantor Officer)

****SURETY** (Print Firm Name and Seal)

By: _____
(Title)

****SURETY** (Print Firm Name and Seal)

By: _____
(Title)

Note: * Attach a Power of Attorney showing that the officer of the warrantor has authority to sign this obligation.

** Attach a Power of Attorney showing that the surety officer or Attorney-In-Fact has authority to sign this obligation; the Power of Attorney and bond must be impressed with the corporate seal. The surety must be a US Treasury listed company and provide notification information.